

1.-16. (CANCELED)

17. (NEW) A heat exchanger (1a-o) comprising:

at least one group (200a-o) of at least two calorie- and frigorie-emitting thermal elements (2a-o), each provided with at least one inlet orifice (21) and at least one outlet orifice (22) connected by at least one conduit (20) traversing said thermal element (2a-o) capable of receiving thermal fluid to recover at least one of calories and said frigories,

a connection means (3a-o) connecting the at least one conduit (20) to another conduit (20) and to at least one circuit external of said heat exchanger (1a-o) to recover the calories and/or frigories from the thermal fluid; and

the connection means with at least one interface plate (3a-o) abutting said thermal elements (2a-o), has at least one channel (34) with connecting orifices (30) located opposite the inlet orifices (21) and outlet orifices (22) in said thermal elements (2a-o) and defining at least one interface circuit (4a-o) allowing said thermal fluid to circulate between said thermal elements (2a-o) and said interface plate (3a-o) through one of a series, parallel, and mixed connection, said interface plate (3a-o) also having at least one supply orifice (31) and at least one discharge orifice (32) which connect said interface circuit (4a-o) to said exterior circuit.

18. (NEW) The heat exchanger (1a-o) according to claim 17, wherein the thermal elements (2a-o) alternately emit calories and frigories, and said interface plate (3a-o) comprises at least two channels (34), each with at least one supply orifice (31), one discharge orifice (32), and connecting orifices (30) defining two distinct interface circuits (4a-o) connected to two external circuits.

19. (NEW) The heat exchanger (1k-o) according to claim 17, wherein the heat exchanger further comprises an additional group (200k-o) of thermal elements (2k-o), each of the groups having at least one interface plate (3k-o) and complementary connection means

(300k-o) for connecting said interface plates (3k-o) to one another and the interface circuits of said corresponding groups (200k-o) in one of a series, a parallel, or a mixed connection.

20. (NEW) The heat exchanger (1c-f) according to claim 17, wherein the connection means comprises at least two interface plates (3c1, 3c2-3f1, 3f2) superimposed back to back, each of the interface plates (3c1, 3c2-3f1, 3f2) comprising at least one channel (34), one supply orifice (31,) one discharge orifice (32), and connecting orifices (30) connected to a unit of thermal elements (2c-2f).

21. (NEW) The heat exchanger (1e, 1f) according to claim 20, wherein the interface plates (3e1, 3e2, 3f1, 3f2) have traversing orifices (50) disposed opposite each other defining a common interface circuit.

22. (NEW) The heat exchanger (1h) according to claim 17, wherein the channel (34) is at least partially formed of a network of perforations through a wall of said interface plate (3h) selectively blocked by plugs depending upon a function of the interface circuit (4h) to be formed.

23. (NEW) The heat exchanger (1a-g, 1j-o) according to claim 17, wherein the channel (34) is at least partially formed by one or more grooves located on at least one surface of said interface plate (3a-g, 3j-o).

24. (NEW) The heat exchanger (1a-g, 1j-o) according to claim 23, wherein the one or more grooves are formed by machining, engraving, or casting.

25. (NEW) The heat exchanger (1a-g, 1j-o) according to claim 23, wherein the connection means comprise at least one closing plate (5a-g, 5j) superimposed on said interface plate (3a-g, 3j) on a grooved side to form said channel (34).

26. (NEW) The heat exchanger (1c-f) according to claim 21, wherein a closing plate (4c-f) is located between two interface plates (3c1, 3c2- 3f1, 3f2) to form the channel (34).

27. (NEW) The heat exchanger (1c, 1e, 1f) according to claim 26, wherein the closing plate (5c, 5e, 5f) comprises traversing orifices (50) opening into said channels (34) to connect the channels in a series, a parallel, or a mixed connection.

28. (NEW) The heat exchanger (1f) according to claim 27, wherein the closing plate (5f) comprises a switch (6) movable between at least two positions so as to modify a mode of connection between said interface circuits.

29. (NEW) The heat exchanger (1f) according to claim 28, wherein the switch (6) is chosen from the group comprising at least one of a slide block, a core, or a sliding unit and is governed by a control mechanism.

30. (NEW) The heat exchanger (1a-o) according to claim 17, wherein the connection means comprises sealing elements located at least between said thermal elements (2a-o) and said interface plate (3a-o).

31. (NEW) The heat exchanger (1a-o) according to claim 30, wherein the sealing means are selected from the group comprising a coating, a flouropolymer resin sheet, or a liquid seal.

32. (NEW) The heat exchanger (1a-o) according to claim 17, wherein the connection means is at least partially made of a thermally insulating material.